

Quantum Pulse SWE Internship - Interview Recap (Isha Kashif)

Key Strengths

- Full-stack experience using React, FastAPI, and MySQL
- Internship at NSK Tech: built generative AI tools (Gradio frontend + FastAPI backend)
- React: useState, props, multi-page flows, OpenAI API integration
- FastAPI: RESTful endpoints, POST handling, JSON I/O
- MySQL: CRUD operations (task manager)
- Docker: containerized internal tools for Linux deployment
- Agile: 2-week sprints, backlog grooming, demoing features
- Strong communication, documentation, and team contribution

Behavioral Questions

Q: Tell me about yourself.

A: I'm a CS major at University of Delaware with a focus in AI. I interned at NSK Tech building internal tools with Gradio and FastAPI, and I'm currently leading student enhancement projects at UD. I'm passionate about growing as a full-stack developer in a collaborative team.

Q: Tell me about a time you worked on a team.

A: I led the Educational Enhancement team at UD's Computing Squad to design a new lesson plan on global computing perspectives. We collaborated in a team of 4, and the result was approved for inclusion in a CS course.

Q: How do you handle feedback?

A: After demoing a Gradio interface, I received feedback to replace a dropdown with a slider for the CFG scale. I made the change and presented it successfully in the next sprint review.

Q: What do you hope to gain from this internship?

A: Real-world full-stack experience, mentorship, and exposure to deployment and collaboration on production-level software.

Technical Quick Answers

RESTful API: A standard way to send/receive data over HTTP (e.g., GET, POST).

React <-> FastAPI: React sends fetch POST request, FastAPI receives it and returns JSON.

useState: React hook to track values (like user responses or current page).

MySQL: Relational DB (tables/rows). Used for structured data in Task Manager.

MongoDB: NoSQL DB. Flexible JSON-like documents (intro level only).

CRUD: Create, Read, Update, Delete. You used all in your MySQL-based Task Manager.

Docker: Packages app and dependencies into containers for consistent deployment.

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CI/CD (intro): Used Bash + Docker to prep code for deployment in Linux.

Final Question

Q: Why should we choose you?

A: My skills and experience align perfectly with this role, but more importantly, I bring strong motivation and a willingness to learn. I'm ready to contribute and grow as part of your team.

ISHA KASHIF

Mobile: 929-366-9622

Email: ishaakashif@gmail.com | ishak@udel.edu

GitHub: [ishakashif](https://github.com/ishakashif)

Education

University of Delaware - Newark, DE

Bachelor of Science in Computer Science

Expected Graduation: May 2027

GPA: 3.6

Skills

Languages & Tools: Python, Bash, C++, Git, PyTorch, NumPy, OpenCV, Gradio, FastAPI

Generative AI & Graphics: Stable Diffusion (AUTOMATIC1111, ComfyUI), StyleGAN (basic), NeRF, LoRA, DreamBooth, image/video stylization, relighting

ML & Deep Learning: CNNs, autoencoders, transfer learning, hyperparameter tuning, multi-GPU training

System Deployment & Performance: Docker (basic), SLURM (intro), Linux environments, lightweight tool deployment

APIs & Platforms: OpenAI, Stability AI, Hugging Face, Replicate, CivitAI

Internal Tooling: Gradio, Streamlit (intro), REST APIs, internal dashboard development

Research & Experimentation: Model comparison, prompt engineering, dataset prep, output evaluation (qualitative + quantitative)

Soft Skills: Clear communication, collaborative problem-solving, technical writing, iterative design thinking

Professional Experience

Software Engineering & Data Intern

NSK TECH INC – March 2023 to December 2024

- Set up and optimized Stable Diffusion (AUTOMATIC1111 and ComfyUI) pipelines in staging environments for visual content generation tasks.
- Experimented with model checkpoints, CFG scale, samplers, and denoising steps to refine image outputs based on specific project needs.
- Integrated APIs including OpenAI and Stability AI into lightweight internal tools, enabling non-technical staff to interact with generative models.
- Built internal utilities with Python and Gradio to expose diffusion workflows and streamline experimentation.

- Conducted comparative evaluations of multiple diffusion and vision models (e.g., SDXL, DreamShaper, NeRF) across synthesis, relighting, and stylization tasks, maintaining performance logs and best-use recommendations.
- Contributed to the development of internal 4D neural reconstruction tools using PyTorch and OpenCV, optimizing model performance through transfer learning and parallel batch processing.
- Collaborated in a Linux-based environment, using Bash and SLURM (intro level) for task scheduling and experiment automation.

Computing Programming Undergraduate Squad Educational Enhancement Head
University Of Delaware, – October 2023 to Present

- Collaborate with a dynamic team to ideate, curate, and finalize changes to the University of Delaware Computer and Information Sciences website, providing valuable information and updates to the undergraduate Computer Science student community, and increasing engagement by 20%.
- Lead the ‘Educational Enhancement’ team to develop and execute inclusive and engaging events for 50+ students, creating an inclusive environment.
- Proactively contribute ideas and solutions to enhance the overall group's initiatives, fostering a collaborative and innovative environment.
- Participate in regular team meetings to discuss upcoming projects, share insights, and ensure alignment with the squad's objectives.
- Utilize effective communication skills to coordinate tasks and deadlines, ensuring timely delivery of newsletters and successful execution of events.

Projects

Task Management System (Typescript)

- Created a to-do list application using Typescript that focused on priority-based organization
- Integrated a MySQL database in order to handle data storage
- Utilized a clean interface and dynamic features in order to enhance user experience and streamline task management

University of Delaware’s MADRASA Website (Java) - www.udmadrasa.org

- Helped develop a website for MADRASA (Muslim Association for Development in Religious Academia and Scholastic Achievement), an Islamic educational foundation at the University of Delaware
- Implemented Java-based functionality in order to promote interactive and user-friendly features

- Collaborated with a partner to ensure the site's meeting of organizational goals and deliver an ideal user-experience

Career Helper Website (Typescript) - [careerhelpi](#)

- Collaborated with a team of 3 to design and develop a career exploration website to help users identify potential career paths based on their interests and responses.
- Implemented core functionality using React, TypeScript, and Bootstrap, including multi-page forms, a progress bar, and OpenAI API integration for career report generation.
- Focused on state management, user experience, and component-based design, while practicing Agile methodologies like weekly sprints and Git-based version control.
- Deployed and tested the site with mock users to gather feedback and iterate on usability improvements.

Student Leadership and Activities

ACM-W Secretary – August 2024 to Present

- Draft and send professional email communications to members regarding upcoming events, meetings, and initiatives.
Contribute to the planning and execution of events that support and uplift women in computing, such as speaker panels and socials.
- Support event logistics including set-up, sign-in, and communicating with guest speakers or participants.

Glitch and Glam Creative Head - February 2025 - Present

- Designed and curated engaging social media content to promote magazine issues, events, and creative initiatives.
- Collaborated with team members to brainstorm and develop visual themes and aesthetic concepts for each magazine issue.
- Contributed to maintaining a consistent brand voice across digital platforms and print media.

Awards and Achievements

- **Dean's List** - Fall 2023 and Spring 2025
- **AP Scholar Award** - May 2022
- **6 Honor Roll Awards**
- **5 Principal's List Awards**